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Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

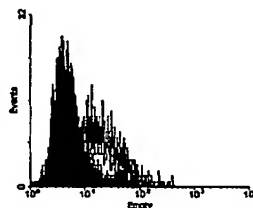
Published:

— with international search report

[Continued on next page]

(54) Title: 5T4 ANTIGEN EXPRESSION AS A MARKER FOR STEM CELL DIFFERENTIATION

Expression of cell-surface 5T4 in MESC ES cells differentiated for 12 days as suspended embryoid bodies



Differentiation of MESC ES cells as suspended embryoid bodies was performed by transferring undifferentiated cells to bacteriological Petri dishes and subsequent growth in DMEMSR lacking LIF. The medium was changed daily.

(57) Abstract: The present invention relates to methods for detecting the differentiation status of stem cells comprising detecting the expression of 5T4 antigen in said stem cells. The present invention also relates to methods for separating populations of undifferentiated or differentiated mammalian stem cells from a mixture of differentiated and undifferentiated stem cells through detection of 5T4 expression.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
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INTERNATIONAL SEARCH REPORT

International Publication No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N33/569 C12N15/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, MEDLINE, PAJ, WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 312 683 B1 (CARROLL MILES WILLIAM ET AL) 6 November 2001 (2001-11-06) column 6, line 38 -column 9, line 24	18
A	EP 0 336 562 A (CANCER RES CAMPAIGN TECH) 11 October 1989 (1989-10-11) the whole document	1-20
A	NIWA H ET AL: "Quantitative expression of Oct-3/4 defines differentiation, dedifferentiation or self-renewal of ES cells." NATURE GENETICS. UNITED STATES APR 2000, vol. 24, no. 4, April 2000 (2000-04), pages 372-376, XP002155942 ISSN: 1061-4036 the whole document	1-20

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

17 December 2003

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 03/02836

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-20 'partially!
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/GB 03 02836

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

In view of the passage on page 29, paragraph 4 of the description, it is evident

that the subject-matter of claims 18-20 comprises a method of in vivo treatment of the human/animal body (effecting 5T4 activity in its native environment), the search has therefore been carried out and based on the alleged effects of the agent.

Continuation of Box I.1

Claims Nos.: 1-20'partially!

Rule 39.1(iv) PCT - Diagnostic method practised on the human or animal body.

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB 03/02836

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